Meeting Minutes
Diamond Alkali OU4 Interim Remedy Current Conditions Sampling Meeting #3
April 11, 2019

Location: Web conference

Participants:

EPA Team:
Michael Sivak
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CPG Team:
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NJDEP Team:
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EPA commented that the timing of current conditions sampling is important and aggressive, and that the agency wants to collect good data to capture the river's current conditions. EPA stressed that the baseline sampling program must be robust.

DEP commented that they support a sampling program that is comprehensive, and the extent may be able to be pared down as the program progresses. They recognized this method is part of an adaptive management approach. They also noted the current conditions sampling data will be used to identify trends in the future and used for the future decisions being made in an adaptive management framework. The CPG agreed that the sampling does fit into the overall adaptive management process. EPA noted that some of the baseline sampling will be for comparison to trends in the future.

In response to a DEP question, the CPG commented that the adaptive management framework will be structured and presented in the feasibility study. Also, the CPG suggested that they should not be locked into a static plan; rather, the CPG supports collecting data in Year 1, evaluating the Year 1 data, and collecting Year 2 data with changes made in response to the Year 1 data evaluation.

The EPA Team slide summarizing a conceptual approach to surface water, biota and sediment sampling for Years 1, 2 and 3 was shared on the call.

DEP commented that the sediment sampling would take a lot of time and was curious if the sampling could be performed in a phased manner, reach by reach. DEP also was curious if infill sediment sampling could be performed in Year 4. EPA noted that the PDI sediment sampling needs to occur after the ROD is signed but could be completed before the ROD is signed if the sampling program is not specifically identified as the PDI. The CPG suggested that the PDI sampling will be difficult to complete in one year. The team agreed the timing of sediment sampling did not need to be resolved now and they agreed to discuss surface water and biota sampling, because those media will be sampled in 2019, with the surface water sampling program to start first.

EPA commented they were in favor of collecting water samples at a frequency higher than monthly as proposed by the CPG; specifically, EPA suggested a weekly sampling rate, although EPA did acknowledge that no specific analysis was performed to determine if weekly data are necessary. The CPG responded they would consider a weekly sampling rate but would prefer to collect Year 1 data as proposed then adjust the frequency in Year 2, if an adjustment is needed. DEP commented that they believe seasonality is an important consideration in the water sampling approach. The CPG confirmed the intention to perform water sampling in the summer and fall of 2019 and also in the spring of 2020.

EPA noted that Lower 8 water column data have been collected since summer 2018. EPA has requested the data from the Lower 8.3 Mile design team, but the data have not yet been received.

EPA noted an issue with proposed sampling (surface water, biota and sediment) in Year 3 (Year 2021) is that the Lower 8 remedial action is scheduled to start in the river on July 1, 2021. EPA indicated that Lower 8 project personnel confirmed that the Lower 8 design is on track and that in river work is expected to begin in July 2021. EPA commented the sampling proposed by CPG in Year 3 should be considered for Year 2 (Year 2020).

A discussion was held on the optical instrumentation data that are being collected in the Lower 8. EPA noted they want to see the data and an analysis of it, and to consider if the optical instruments worked, or did not work. EPA and CPG agreed the data should be received and reviewed to determine if there is a potential to use optical instrumentation in the Upper 9 miles.

EPA noted that the CPG should sample for COCs in surface water, biota and sediment, as data will be needed during baseline for all COCs such that decisions can be made in the future pertaining to final remediation. The CPG asked whether analysis should be performed for COCs or risk drivers, and indicated that the human health and ecological risk assessments have already clarified between the two. The team agreed that the chemical list to monitor needs to continue to be discussed.

The conversation moved to biota sampling.

EPA stated they did a preliminary power analysis on the biota sampling and concluded that about 20 to 40 composite samples of three fish each would be appropriate for each biota sampling event in order to detect a 50% reduction in tissue concentrations (at a power of 0.8). The CPG noted they did a power analysis to develop their estimate of 12 composites, but the criteria they used were slightly different. EPA and the CPG agreed they would look closely at their respective analyses to home in on an agreement for the number of samples to collect.

EPA described an issue with detecting trends in tissue lipids over time when using composited samples, based on the work performed on the Hudson River, and that analyzing individual fish samples yields a

more powerful analysis. EPA stated that for a short-term comparison (e.g., pre- versus post-remedy), the use of composite samples is acceptable, but for long-term monitoring, the use of individual fish samples is important to follow lipid trends. Lipid trends are important because dioxins and PCBs are lipophilic, and the tissue concentration data is lipid-normalized.

The CPG noted the practicality of collecting composite samples, and that the necessary amount of sufficiently sized fish may not be available to do individual analyses. The CPG noted that species not large enough to provide sufficient tissue mass as individuals would definitely need to be composited (e.g., forage fish and crabs).

EPA commented that the four segments (Segments A-D) previously proposed by CPG could be reduced to fewer segments, for example three segments (Segments A/B combined, Segment C, and Segment D). In the upper reach of the river, fewer samples may be required due to lower variability in tissue sample concentrations. The CPG noted that their proposed sampling reaches were selected primarily for organization and to feed the food web model, but that they believe tissue concentrations should be assessed for the entire Upper 9 miles. EPA suggested that tissue concentrations should be assessed for more discrete river reaches given differences in sediment type and contaminant distribution.

The CPG indicated they do not believe that laboratory bioaccumulation testing with sediment samples is necessary for the current conditions sampling. EPA indicated that there are risks in the system to benthic invertebrates (through critical body residues) and to higher trophic level organisms that consume benthic invertebrates. EPA said they would discuss further the anticipated needs for bioaccumulation testing for a later discussion.

CPG asked how EPA expects them to use the data for monitoring. EPA responded that RM 15 to Dundee Dam would yield fish with lower tissue concentrations and lower variability than will be found in biota from RM 8.3 to 15. Including the fish from RM 15 to Dundee Dam in the analysis of pre to post-remedy improvement would understate the improvement achieved in RM 8.3 to 15.

Meeting participants agreed the data quality objectives need to define if the focus is for RM 8.3 – 15 or RM 8.3 to Dundee Dam. Also, meeting participants agreed the chemicals to be monitored need to be identified and agreed on.

Meetings were set to continue the conversation on current condition sampling:

April 17, 2019 – Surface Water Current Condition Sampling (in person meeting)

April 18, 2019 – Biota Current Condition Sampling (telephone call)

Action Items:

- EPA and the CPG to assess their respective power analyses to home in on an agreement for the number of tissue samples to collect.
- EPA to send the invites for the April 17, 2019 meeting and April 18, 2019 call.